ACTUARIAL SCIENCE (ACTSCI)

ACTSCI 290 Introduction to Actuarial Science  
3 cr. Undergraduate.  
Overview of the actuarial profession, financial risks, and types of insurance products; risk components; and risk evaluation methods.  
Prerequisites: Satisfaction of Quantitative Literacy Part A GER.  
Last Taught: Spring 2021, Fall 2020, Spring 2020.  
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 391 Investment Mathematics I  
4 cr. Undergraduate.  
Examination of annuities, loans, bonds, portfolio immunization, and interest rate swaps. Foundational preparation for the Financial Mathematics (FM) Professional Actuarial Exam.  
Prerequisites: junior standing and a grade of C or better in MATH 232(P).  
Course Rules: Counts as a repeat of MATH 311.  
Last Taught: Spring 2021, Fall 2020, Spring 2020, Fall 2019.  
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 490 Introduction to Actuarial Practice  
1 cr. Undergraduate.  
Professional topics such as healthcare, pensions, life insurance, property and casualty, reinsurance, and regulation.  
Prerequisites: ACTSCI 290(P).  
Course Rules: May be retaken for cr once. Counts as repeat of MTHSTAT 591.  
Last Taught: Fall 2020, Fall 2019, Fall 2018, Fall 2017.  
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 491 Actuarial Workshop FM  
1 cr. Undergraduate.  
Continuation of topics from ACTSCI 391 along with practice and preparation for the Financial Mathematics (FM) Professional Actuarial Exam.  
Prerequisites: a grade of C or better in ACTSCI 391(P) or consent of instructor.  
Course Rules: Counts as a repeat of MTHSTAT 593. Retakeable up to 2 cr max.  
Last Taught: Fall 2020, Fall 2019, Fall 2018, Fall 2017.  
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 492 Actuarial Workshop P  
1 cr. Undergraduate.  
Continuation of probability topics from MTHSTAT 361 along with practice and preparation for the Probability (P) Professional Actuarial Exam.  
Prerequisites: a grade of C or better in MTHSTAT 361(P) or consent of instructor.  
Course Rules: Counts as a repeat of MTHSTAT 592. Retakeable up to 2 cr max.  
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 590 Actuarial Internship  
1-6 cr. Undergraduate.  
Apply principles and techniques of actuarial science in business, governmental and other appropriate settings.  
Prerequisites: soph st; 6 cr 300-level or above in ACTSCI or MTHSTAT; GPA in ACTSCI and MTHSTAT courses at least 2.5.  
Course Rules: One cr earned for academic work based on 40 hours in internship. May be retaken to 6 cr max.  
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 591 Investment Mathematics II  
3 cr. Undergraduate.  
Mathematical models in finance and economics, corporate finance.  
Prerequisites: jr st; MTHSTAT 361(P); ACTSCI 391(P).  
Course Rules: Counts as repeat of MTHSTAT 692.  
Last Taught: Fall 2020, Fall 2019, Fall 2018.  
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 593 Actuarial Models I  
3 cr. Undergraduate.  
Long term insurance coverage, single life survival models, life insurance, annuities, benefit and premium random variables, mortality models.  
Prerequisites: jr st; ACTSCI 391(P); MTHSTAT 361(P); MTHSTAT 362(C).  
Course Rules: Counts as a repeat of MTHSTAT 691.  
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 594 Actuarial Models II  
3 cr. Undergraduate.  
Long term insurance coverage, single life survival models, life insurance, annuities, benefit and premium random variables, mortality models.  
Prerequisites: ACTSCI 593(P); MTHSTAT 362(P).  
Last Taught: Spring 2021.  
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 596 Actuarial Statistics I  
3 cr. Undergraduate.  
Loss models for short term insurance and their statistical fitting.  
Prerequisites: jr st; MATH 234(P); MTHSTAT 362(P).  
Course Rules: Counts as a repeat of MTHSTAT 596.  
Last Taught: Fall 2019, Fall 2017, Fall 2015.  
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 597 Actuarial Statistics II  
3 cr. Undergraduate.  
Credibility theory, ratemaking, and reserving.  
Prerequisites: jr st; MATH 234(P); MTHSTAT 362(P).  
Course Rules: Counts as a repeat of MTHSTAT 597.  
Current Offerings: https://catalog.uwm.edu/course-search/

ACTSCI 599 Capstone Experience  
1 cr. Undergraduate.  
Independent research on current financial and insurance topics that are not covered in regular actuarial courses.  
Prerequisites: senior standing.  
Course Rules: May be retaken for cr once.  
Last Taught: Spring 2021, Fall 2020.  
Current Offerings: https://catalog.uwm.edu/course-search/
**ACTSCI 790 Actuarial Internship**  
1-6 cr. Graduate.  
Apply principles and techniques of actuarial science in business, governmental and other appropriate settings.  
**Prerequisites:** graduate standing.  
**Course Rules:** One cr earned for academic work based on 40 hours in internship. May be retaken to 6 cr max.  
**Last Taught:** Summer 2021, Spring 2021, Fall 2020, Summer 2020.  
**Current Offerings:** https://catalog.uwm.edu/course-search/  

**ACTSCI 791 Investment Mathematics II**  
3 cr. Graduate.  
Mathematical models in finance and economics, corporate finance.  
**Prerequisites:** graduate standing.  
**Last Taught:** Fall 2020.  
**Current Offerings:** https://catalog.uwm.edu/course-search/  

**ACTSCI 793 Actuarial Models I**  
3 cr. Graduate.  
Long term insurance coverage, single life survival models, life insurance, annuities, benefit and premium random variables, mortality models.  
**Prerequisites:** graduate standing.  
**Last Taught:** Fall 2020.  
**Current Offerings:** https://catalog.uwm.edu/course-search/  

**ACTSCI 794 Actuarial Models II**  
3 cr. Graduate.  
Long term insurance coverage, single life survival models, life insurance, annuities, benefit and premium random variables, mortality models.  
**Prerequisites:** grad st; ACTSCI 593(P); MTHSTAT 362(P).  
**Last Taught:** Spring 2021.  
**Current Offerings:** https://catalog.uwm.edu/course-search/  

**ACTSCI 796 Actuarial Statistics I**  
3 cr. Graduate.  
Loss models for short term insurance and their statistical fitting.  
**Prerequisites:** graduate standing.  
**Current Offerings:** https://catalog.uwm.edu/course-search/  

**ACTSCI 797 Actuarial Statistics II**  
3 cr. Graduate.  
Credibility theory, ratemaking and reserving.  
**Prerequisites:** graduate standing.  
**Last Taught:** Spring 2020.  
**Current Offerings:** https://catalog.uwm.edu/course-search/  

**ACTSCI 891 Actuarial Risk Theory**  
3 cr. Graduate.  
Risk models; premium principles; reinsurance contracts; ruin theory; ordering of risks; bonus-malus systems; IBNR techniques.  
**Prerequisites:** grad st; MATH 571(P) & ACTSCI 596(P), or consent of instructor.  
**Course Rules:** Previously MTHSTAT 795.  
**Last Taught:** Fall 2019, Fall 2017, Fall 2015, Fall 2013.  
**Current Offerings:** https://catalog.uwm.edu/course-search/  

**ACTSCI 895 Topics in Actuarial Science:**  
3 cr. Graduate.  
Advanced topics in actuarial science.  
**Prerequisites:** graduate standing; 6 credits of 700 level ACTSCI coursework.  
**Course Rules:** Repeatable to 9 credits max. Counts as a repeat of MTHSTAT 896 with a similar topic.  
**Last Taught:** Spring 2021.  
**Current Offerings:** https://catalog.uwm.edu/course-search/  

**ACTSCI 895 Topics in Actuarial Science:**  
3 cr. Graduate.  
Advanced topics in actuarial science.  
**Prerequisites:** graduate standing; 6 credits of 700 level ACTSCI coursework.  
**Course Rules:** Repeatable to 9 credits max. Counts as a repeat of MTHSTAT 896 with a similar topic.  
**Last Taught:** Spring 2021.  
**Current Offerings:** https://catalog.uwm.edu/course-search/